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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,535

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EXAMINER

ZHE, MENG YAO

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,535	<b>Applicant(s)</b> SUN ET AL.	
	<b>Examiner</b> MENG YAO ZHE	<b>Art Unit</b> 2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. Claims 1-22 are presented for examination.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pizi et al., Patent No. 5,878,258 (hereafter Pizi) in view of Greenspan et al., Patent No. 5,895,492 (hereafter Greenspan) Cheng, Patent No. 5,694,581 (hereafter Cheng).
3. Pizi and Cheng were cited in the previous office action.
4. As per claim 1, Pizi teaches a computer system, comprising:
  - a processor (Column 5, lines 10-11);
  - a memory and (Column 5, lines 14-15)
  - a system, further comprising:
    - a main engine to call and run routines, wherein some of the routines require resource accesses to a plurality of resources within the computer systems (Column 10, lines 50-51; Column 2, lines 27-30; Column 10, lines 47-60);

Pizi does not specifically teach a synchronizing module to synchronize concurrent running of the routines that include concurrent resource accesses to different ones of the resources, wherein the synchronization modules allows for concurrent running of the routines with the concurrent resource accesses to different ones of the resources by blocking competing concurrent resource accesses while permitting 1) non-competing concurrent resource accesses and 2) non-resource access operations.

However, Greenspan teaches concurrent running of the routines with the concurrent resource accesses to different ones of the resources by blocking competing concurrent resource accesses while permitting 1) non-competing concurrent resource accesses and 2) non-resource access operations (Column 5, lines 58-62; Column 10, lines 39-47: it is obvious that if processes requiring different resources can run concurrently, then two processes where one needs resource and another needs zero resource can also run concurrently) for the purpose of increasing execution efficiency.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Pizi with the specifics of synchronizing concurrent running of the routines such that routines that have been granted accesses to their corresponding resources and routines that do not require resource access run concurrently, as taught by Greenspan, because it allows an increase in processing efficiency.

Pizi in view of Greenspan does not specifically teach that the resource access happens in a BIOS.

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However, Cheng teaches a situation where concurrent resource accesses are performed in a BIOS environment for the purpose of easier information retrieval (abstract).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Pizi in view of Greenspan with the specifics of concurrent resource accesses in a BIOS environment, as taught by Cheng, because it allows for an easier information retrieval.

5. As per claim 16, Pizi teaches a method of synchronizing resource accesses in a computer system, comprising:

associating an access indicator with each of a plurality of resources (Column 10, lines 50-51);

determining what current value an access indicator of a resource has when a routine wants to access that resource, wherein the value of the access indicator indicates how many routines are allowed to access the resource concurrently; and changing the value of the access indicator by a predetermined amount and granting access to the resource to the requesting routine if the value is not at a predetermined level (Column 2, lines 27-30; Column 10, lines 47-60: it is obvious that the indicator changes count value when a routine accesses the resource).

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Pizi does not specifically teach synchronizing concurrent running of the routines such that routines that have been granted accesses to their corresponding resources and routines that do not require resource access run concurrently.

However, Greenspan teaches synchronizing concurrent running of the routines such that routines that have been granted accesses to their corresponding resources and routines that do not require resource access run concurrently for the purpose of increasing processing efficiency (Column 5, lines 58-62; Column 10, lines 39-47: it is obvious that if processes requiring different resources can run concurrently, then two processes where one needs resource and another needs zero resource can also run concurrently).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Pizi with the specifics of synchronizing concurrent running of the routines such that routines that have been granted accesses to their corresponding resources and routines that do not require resource access run concurrently, as taught by Greenspan, because it allows an increase in processing efficiency.

Pizi in view of Greenspan does not specifically teach that the resource access happens in a BIOS.

However, Cheng teaches a situation where concurrent resource accesses are performed in a BIOS environment for the purpose of easier information retrieval (abstract).

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It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Pizi in view of Greenspan with the specifics of concurrent resource accesses in a BIOS environment, as taught by Cheng, because it allows for an easier information retrieval.

6. As per claim 2, Pizi teaches an access indicator associated with each of the resources to be accessed, wherein the access indicator controls access to its associated resource and does not affect access to another resource (Column 2, lines 27-30; Column 10, lines 47-60).

7. As per claim 5, Pizi teaches wherein the access indicator and the synchronization module allow concurrent access to one of the resources by multiple routines when the access indicator of the one of the resource is assigned with a value greater than 1 (Column 10, lines 50-51).

8. As per claim 6, Cheng teaches wherein the concurrent accesses to one of the resources by multiple routines are read/write operations to that one of the resources (Column 6, lines 30-35).

9. As per claim 9, Pizi teaches a method of synchronizing resource accesses by a plurality of routines in a computer system, comprising:

associating an access indicator with each of the plurality of resources;

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determining what current value an access indicator of a resource has when a routine wants to access that resource, wherein the value of the access indicator indicates how many routines are allowed to access the resource concurrently;

changing the value of the access indicator by a predetermined amount and granting access to the resource to the requesting routine if the value is not at a predetermined level.

Pizi does not specifically teach synchronizing concurrent running of the routines such that routines that have been granted accesses to their corresponding resources and routines that do not require resource access run concurrently.

However, Greenspan teaches synchronizing concurrent running of the routines such that routines that have been granted accesses to their corresponding resources and routines that do not require resource access run concurrently for the purpose of increasing processing efficiency (Column 5, lines 58-62; Column 10, lines 39-47: it is obvious that if processes requiring different resources can run concurrently, then two processes where one needs resource and another needs zero resource can also run concurrently).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Pizi with the specifics of synchronizing concurrent running of the routines such that routines that have been granted accesses to their corresponding resources and routines that do not require resource access run concurrently, as taught by Greenspan, because it allows an increase in processing efficiency.



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Pizi in view of Greenspan does not specifically teach that the resource access happens in a BIOS.

However, Cheng teaches a situation where concurrent resource accesses are performed in a BIOS environment for the purpose of easier information retrieval (abstract).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Pizi in view of Greenspan with the specifics of concurrent resource accesses in a BIOS environment, as taught by Cheng, because it allows for an easier information retrieval.

10. As per claims 10, 17, Pizi does not specifically teach wherein the access indicator of each of the resources is assigned with an initial value.

It would have been obvious to one having ordinary skill in the art at the initial value of Pizi's counter is 0 in order to track the number of application accessing the resource correctly.

11. As per claims 11, 18, Pizi does not specifically teach not changing the value of the access indicator and not granting access to the resource to the requesting routine if the value of the access indicator is determined to be already at the predetermined level.

However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention that the purpose of Pizi to set the maximum number of

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allowable accesses is to limit how many applications may access the resource and to prevent them from accessing the resource in the event that the limit has been reached (Column 10, lines 53-60).

12. As per claims 3, 12, 19, Pizi teaches wherein the changing is performed by decreasing the value of the access indicator by the predetermined amount and granting access to the resource to the requesting routine if the value is not at a predetermined lowest level, wherein the access to the resource by the requesting routine does not affect operation of any other routine that does not require access to this resource (Column 10, lines 50-60).

13. As per claims 13, 20, Pizi teaches wherein the predetermined lowest level is zero and the predetermined amount is one (Column 10, lines 58-60).

14. As per claims 14, 21, Pizi teaches increasing the value of the access indicator by the predetermined amount (Column 10, lines 50-55).

However, Pizi does not specifically teach that the above is done after the routine has accessed the resource.

However, incrementing the counter after the performance of an action is commonly practiced in the field of task management for the purpose of accurately reporting the states or status of the system. It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of

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Pizi with updating the counter only after the access action has been performed because it allows for accurate information about the system to be recorded.

15. As per claim 4, Pizi does not specifically teach wherein if the value of the access indicator of the one of the resources is equal to zero, that one of the resources is not accessible by any other routine.

However, Pizi does teach that the value that indicates how many applications may access the resource may be defined by the user and since using 0 to mean that no one is allowed to access is commonly practiced in the field of access control, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention that the users of Pizi's system can very well set the value to 0 to indicate that the resources is not allowed to be accessed/shared amongst applications in the event that the resource is a private resource.

16. As per claim 7, Pizi does not specifically teach wherein the access indicator and the synchronization module allow anyone of the routines that does not require resource access to be running concurrently with the resource accesses.

However, since Pizi does teach that routines may run concurrently (Column 7, lines 4-12), in the specific event where one routine does not need resources and another is accessing resources, it would have been obvious to one having ordinary skill in the art at the Pizi's system would allow the two routines to run concurrently since there is no control system in Pizi's invention to block this from happening.

17. As per claims 8, 15, 22, Pizi in view of Cheng does not specifically teach wherein the BIOS is an EFI (Extensible Firmware Interface) based BIOS.

However since EFI has been used at the time of the applicant's invention to provide better boot/runtime services, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to have the BIOS be EFI, because it allows for better boot/runtime services to be provided.

### ***Response to Arguments***

18. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MENGYAO ZHE whose telephone number is (571)272-6946. The examiner can normally be reached on Monday Through Friday, 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/  
Supervisory Patent Examiner, Art Unit 2195

/Mengyao Zhe/

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